

ABSTRACT OF THE INVENTION

A method for fabricating field emitters from a conductive or semiconductive substrate. A layer of low work function material may be formed on the substrate. Emission tips that include such a low work function material may have improved performance. An etch mask appropriate for forming emission tips is patterned at desired locations over the substrate and any low work function material thereover. An anisotropic etch of at least the substrate is conducted to form vertical columns therefrom. A sacrificial layer may then be formed over the vertical columns. A facet etch of each vertical column forms an emission tip of the desired shape. If a sacrificial layer was formed over the vertical columns prior to formation of emission tips therefrom, the remaining material of the sacrificial layer may be utilized to facilitate the removal of any redeposition materials formed during the facet etch.

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